

9) Chlorine Solution.

- 1) Make paste of 1 tsh. chloride of lime + a little water.
- 2) Mix well in 1 cask of water.
- 3) Add 3 more cask of water - chlorine solution made.

10) 1 tsh. chlorine solution to 2 gallons of water is purification of water.

11) Filtration.

Bones of gravel + sand, which remove suspended matter in water.

Alum coagulates impurities which are deposited in coagulation basin.

Pure water is drained off after this process.

12) Swimming pools are purified by -

- 1) Chlorination
- 2) Filtration
- 3) Replacement of clean water.
- 4) Removal of water from tank every 2 months.

13) Posts inspected by.

- 1) Bacterial count
- 2) Chlorination test.
- 3) Water analysis.
- 4) Physical test - scum etc.

14) Federal govt controls water purification of -

- 1) Indian, + N.W.T territories.
- 2) Mails routes, boats, airships, posts, Indian reserves, national parks.
- 3) Construction camps of govt works.

Community and Preventable Diseases. HAMILTON.

1. Communicable diseases can be divided into such sections as -
 - 1) Dietary diseases.
 - 2) Glandular diseases.
 - 3) Nervous diseases.
 - 4) Respiratory diseases.
 - 5) Social or venereal diseases
 - 6) Fevers.
2. Heart diseases may be caused by-
 - 1) Rheumatic fever.
 - 2) Infectious disease - diphtheria, pneumonia.
 - 3) Syphilis
 - 4) Chronic infections - tonsils teeth.
 - 5) Incomplete convalescence.
 - 6) Unusual exercise - heart is strained.
 - 7) Overweight.
3. Guards against heart trouble.
 - 1) Visit doctor yearly.
 - 2) Watch infected teeth + tonsils
 - 3) Go to the dentist often.
 - 4) Run to a general weight average.
 - 5) Eat nicely.
 - 6) Take no headache remedies.
 - 7) Beware of tobacco and stimulants.
 - 8) Give a well-rounded life - beware of fatigue
 - 9) Be examined after illness.

4. The common cold -

is inflammation of upper air passage.
1st signs - sneezing, throat, thirst, body ache.
2nd signs - running nose, headache.
watering eyes.

It is a respiratory disease.

5. Tuberculosis.

- caused by a bacillus, which leads to formation of tubercles in the lungs.

Signs are - chills, temperature rise, difficult breathing, pain in the side, might lose and fatigue, haemorrhage, enlargement of glands of neck.

6. Venereal diseases are -

1) Syphilis -

2) Gonorrhoea.

3) Chancroid.

7) Syphilis caused by protomon *Treponema Pallidum*.

Gonorrhoea " " an oval bacterium.

Chancroid " " infection of *Quint's bacillus*.

8) Venereal diseases are transmitted by direct contact by person, or by the use of other public towels, drinking cups etc.

9) Venereal diseases could be checked by -

1) Elimination of prostitution.

2) Supervision of dance halls, night clubs etc.

3) Clinics for treatment of disease.

4) Education of the people and children.

10. Cancer is a malignant tumor of epithelial cells.

The Transmission of Communicable Diseases.

1. Communicable disease is any disease transferred from one person to another - a "catching" disease.
2. Cause is growth of a microscopic plant or animal.
- bacteria, virus, protozoa.
3. Transmission by food or drink.
 - 1) Common eating + drinking material + utensils.
 - 2) Meat - paratyphoid, trichinosis.
 - 3) Milk - T.B., diphtheria.
 - 4) Water - typhoid, cholera.
 - 5) Ice - "
4. Transmission by Contact.
 - 1) Direct contact - touching, kissing.
 - 2) Droplet infection - sneezing, coughing.
 - 3) Soiled articles - handkerchiefs, towels.
5. Transmission through Community Units.
 - 1) Public eating rooms.
 - 2) Laundries
 - 3) Hotels.
 - 4) Movies
 - 5) Water systems.
 - 6) Sewage
 - 7) Public fountains
 - 8) Swimming pools.

6. Transmission by Insects.

- 1) Flea - plague
- 2) lice - typhus
- 3) Mosquito - malaria
- 4) Flea - malaria.

7. Transmission by Soil.

- by micro-organisms in dust - gives lock-jaw.

8. Carriers of Disease.

- 1) Missed Cases.
- 2) Shell-fish.

9. Communicable disease germs live best in the body.

10. T.B. is the most dreaded of communicable disease, inspection of cows & pasteurization of milk are therefore very important.

1. Industrial.

1. Smoke - must be regulated.
2. Bakeries - odours must escape them.
 - good ventilation.
 - not near stables.

2. Slaughter houses.

- tiled, stoned, drain connects sewer.

3. Quarries.

- Public buildings must be clean & ventilated.

4. Offensive trades.

Regulations as to refining oil etc.

5. Disposal of Trade Wastes.

Not into municipal sewers or sea.

Burial grounds not over-crowded.

6. Sewage disposal.

1) Sanitary pines.

- ventilated & water-tight receptacles.
- contents buried & disinfected.

7. 2) Septic tanks.

- sewage disposal is in tank - addition of anaerobic bacteria - sewage ends in disposal field.

8. Sewage disposal from home goes into main sewer. - did
1) By septic tank.
2) Trickling beds. - incite tanks of coke & disinfectant
3) Sludge treatment.

9. City controls disposal of sewage.

10. It is a modern problem, and is well solved in
most cities, but not always in country places.

Ventilation.

Effects of bad air - headache, drowsiness, lassitude, dizziness, nervousness.

- respiratory diseases, T. B., pneumonia etc.
- imperfect saturation of blood, causes general debility & thus lowered resistance to fatigue & disease.

- 1) Arid high temp.
- 2) High moisture content harmful.
- 3) Bad air decreases appetite & energy.

Most important factors in ventilation are -

- 1) Air currents:
- 2) Temp.
- 3) Humidity.

Lack of these - result in unsuitable activity of sweat glands of the heat-producing mechanisms & derangement of vasomotor reflexes - regulate supply of blood sent to the skin.

air should be - clean, moist, warm, moving, changing temp
- essential in personal hygiene.

Bedroom - aired at night, not over bed. also in day.

Practical suggestions

- 1) Temp should be 68° .
- 2) Air movements secured without draughts.
- 3) No moisture - dries m. m. of nose & throat.
- 4) Upper & lower openings in window.

Air-conditioning in Pullman

- 1) Air drawn in by electric suction fan, filtered, cleaned of dust, pollen & impurities.
- 2) Drawn over cooling & heating coils.
- 3) Warm air over cold coils, condensed & removes moisture of air - controls humidity & temp.

4. Refrigerating apparatus under car.
5. Refrigerant, cold water piped to cooling coils, non-toxic, non-poisonous, non-inflammable outlets & inlets designed to prevent violent circulation of air & draff.
6. Car has range of balanced temp. & humidity in which comfort is in.

Houses -

1. Air free of dust & fumes, good temp. & humidity.
- water evaporated by pans of water on stove.
- hot water & fireplaces.
2. Windows - double hung.
- deflectors - open from bottom.
3. Air drawn into furnace, warmed, passed up ducts.
4. Thermometers & thermostats, humidifiers.

Schools -

1. Fans
2. Window deflectors
3. Direct & indirect radiator systems.

Fans - fans at top - air comes down thru, passes through spray of H₂O or cheese cloth & is cleaned. The H₂O humidifies it at same time. Then sent to main air duct. Water & cloths cleaned often.

Industrial ventilation

- 1) Natural - air movement due to differences between air pressure of ducts & outside air.
- 2) Mechanical - air movement by fans.

Restaurants - cleaned every 2 min.

Stores - 5-10 min.

Stores - harmful, poisons, removed.

Mills - heavier than air - removed through side wall springs at floor level.

Dust collection - hygiene .

Ventilation of mines -

1) Safety of workers .

2) Removal of gases + dust .

3) Control air flow in emergencies .

Regulators control + compel air to remote sections of mine . especially in metal mines .

- air enters through downcast shaft - leaves through upcast shaft - exhaust fan at top .

Regulations + Suggestions .

Object of ventilation .

1) Change room air .

2) Regulate temp .

3) Reg. air moving .

4) Avoid excessive dryness .

Methods of regular temp .

1) Use of potted plants .

2) H₂O pans .

Tests of Ventilation .

1) Comfort of occupants .

2) Physiological + psychological ability .

3) Health of occupants .

Public Buildings + Camps .

1) Outside intake 1000 F.

2) Main discharge duct .

3) Connections of plant .

4) Ducts .



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